

**Amendments to the Claims:**

**This listing of claims will replace all prior versions and listing of claims in the application.**

**Please cancel claims 1 to 3, 5 and 6 without prejudice or disclaimer.**

**Please add new claims 27 to 52 as follows:**

1 to 26. (cancelled)

27. (new) A set of at least two oligonucleotide probes, wherein each of the oligonucleotide probes comprises a nucleotide sequence that specifically hybridizes to a human BRCA1 gene comprising a nucleic acid sequence containing one or more of the following nucleotides:

- (a) thymidine at a position corresponding to nucleotide 2201 of SEQ ID NO: 1,
- (b) cytosine at a position corresponding to nucleotide 2430 of SEQ ID NO: 1,
- (c) thymidine at a position corresponding to nucleotide 2731 of SEQ ID NO: 1,
- (d) guanine at a position corresponding to nucleotide 3232 of SEQ ID NO: 1,
- (e) guanine at a position corresponding to nucleotide 3667 of SEQ ID NO: 1,
- (f) cytosine at a position corresponding to nucleotide 4427 of SEQ ID NO: 1, and
- (g) guanine at a position corresponding to nucleotide 4956 of SEQ ID NO: 1.

28. (new) A set of oligonucleotide probes according to claim 27, wherein the BRCA1 gene comprises SEQ ID NO: 1, 3 or 5, a sequence complementary thereto, or fragments thereof containing one or more of said nucleotides (a) to (g).

29. (new) A set of oligonucleotide probes according to claim 27, wherein the set comprises at least three oligonucleotide probes.

30. (new) A set of oligonucleotide probes according to claim 27, wherein the set comprises at least five oligonucleotide probes.

31. (new) A set of oligonucleotide probes according to claim 27, wherein the set comprises at least seven oligonucleotide probes.

32. (new) A set of oligonucleotide probes according to claim 27, wherein the set comprises at least ten oligonucleotide probes.

33. (new) A set of oligonucleotide probes according to any one of claims 27 to 32, wherein the probes are attached to a solid support.

34. (new) A set of oligonucleotide probes according to claim 33, wherein the solid support is selected from the group consisting of a membrane, a glass support, a nylon support and a silicon support.

35. (new) A set of oligonucleotide probes according to claim 27, wherein one or more of the oligonucleotide probes is labeled.

36. (new) A set of oligonucleotide probes according to claim 27, wherein the nucleic acid sequence comprising the human BRCA1 gene is labeled.

37. (new) A set of oligonucleotide probes according to claim 35 or 36, wherein the label is a fluorescent label.

38. (new) A set of oligonucleotide probes according to claim 27, wherein the oligonucleotide probes comprises one or more of the nucleotide sequences set forth in Table 2 (SEQ ID NO: 7 to 72).

39. (new) An array comprising two or more oligonucleotides, wherein each of the oligonucleotides comprises a sequence that specifically hybridizes to a human BRCA1 gene comprising a nucleic acid sequence containing one or more of the following nucleotides:

- (a) thymidine at a position corresponding to nucleotide 2201 of SEQ ID NO: 1,
- (b) cytosine at a position corresponding to nucleotide 2430 of SEQ ID NO: 1,
- (c) thymidine at a position corresponding to nucleotide 2731 of SEQ ID NO: 1,
- (d) guanine at a position corresponding to nucleotide 3232 of SEQ ID NO: 1,
- (e) guanine at a position corresponding to nucleotide 3667 of SEQ ID NO: 1,
- (f) cytosine at a position corresponding to nucleotide 4427 of SEQ ID NO: 1, and
- (g) guanine at a position corresponding to nucleotide 4956 of SEQ ID NO: 1.

40. (new) An array according to claim 39, wherein the BRCA1 gene comprises SEQ ID NO: 1, 3 or 5, a sequence complementary thereto, or fragments thereof containing one or more of said nucleotides (a) to (g).

41. (new) An array according to claim 39, wherein the oligonucleotides are bound to a solid support.

42. (new) An array according to claim 41, wherein the oligonucleotides are covalently bound to the solid support.

43. (new) An array according to claim 41, wherein the oligonucleotides are non-covalently bound to the solid support.

44. (new) An array according to claim 41, wherein the solid support comprises at least about seven different oligonucleotides in discrete locations per square centimeter.

45. (new) An array according to claim 41, wherein the solid support comprises at least about ten different oligonucleotides in discrete locations per square centimeter.

46. (new) An array according to claim 41, wherein the solid support comprises at least about one-hundred different oligonucleotides in discrete locations per square centimeter.

47. (new) An array according to claim 41, wherein the solid support comprises at least about one-thousand different oligonucleotides in discrete locations per square centimeter.

48. (new) An array according to claim 41, wherein the solid support comprises at least about ten-thousand different oligonucleotides in discrete locations per square centimeter.

49. (new) An array according to claim 39, wherein one or more of the oligonucleotides is labeled.

50. (new) An array according to claim 39, wherein the nucleic acid sequence comprising the human BRCA1 gene is labeled.

51. (new) An array according to claim 49 or 50, wherein the label is a fluorescent label.

52. (new) An array according to claim 39, wherein the oligonucleotides comprise one or more of the nucleotide sequences set forth in Table 2 (SEQ ID NO: 7 to 72).